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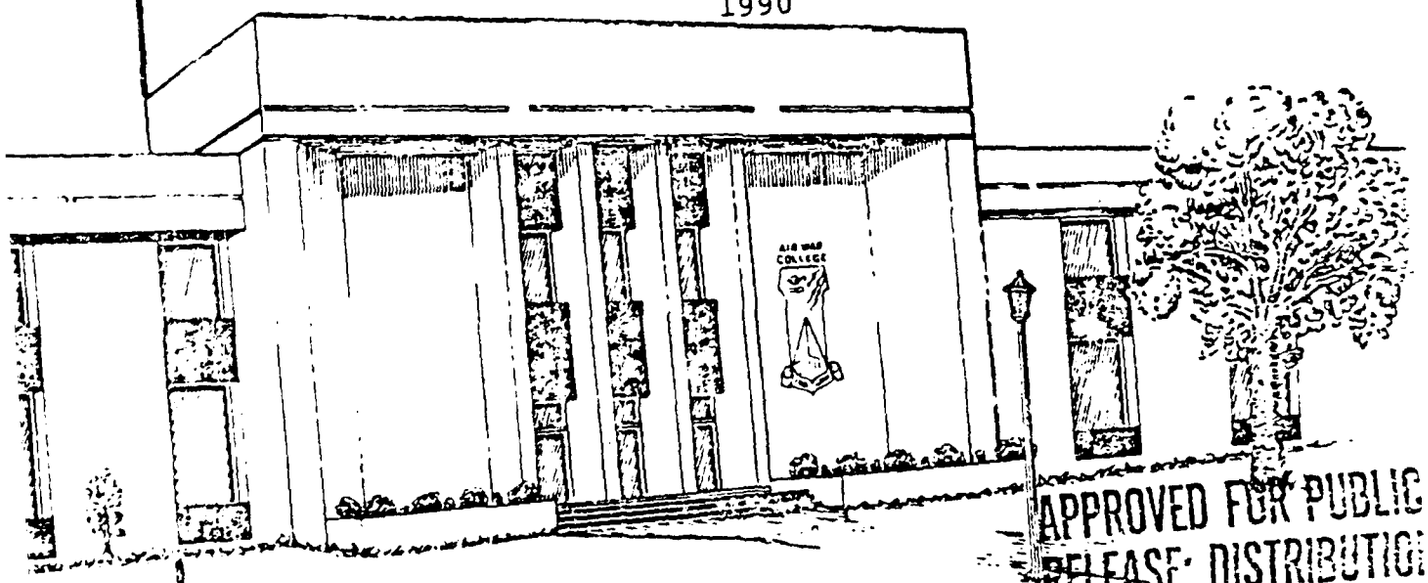
RESEARCH REPORT

NUCLEAR PROLIFERATION IN THE MIDDLE EAST: STRATEGIES AND SCENARIOS

GROUP CAPTAIN MOHAMED BIN NASSER AL-RASBY

SULTAN OF OMAN'S AIR FORCE

1990



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NUCLEAR PROLIFERATION IN THE MIDDLE EAST: STRATEGIES AND SCENARIOS

by

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A DEFENSE ANALYTICAL STUDY SUBMITTED TO THE FACULTY

IN

FULFILLMENT OF THE CURRICULUM

REQUIREMENT

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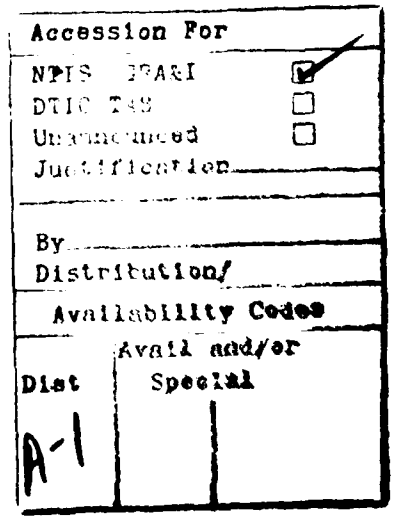

EXECUTIVE SUMMARY

TITLE: Nuclear Proliferation in the Middle East: Strategies and Scenarios. AUTHOR: Mohamed Bin Nasser Al-Rasby, Group Captain, Sultan of Oman's Air Force (SOAF)

Despite the efforts of the nuclear non-proliferation regimes and that of the United States, Israel, among other countries, has crossed the nuclear threshold and possesses nuclear bombs. The balance of power, in the Middle East, has shifted in favor of Israel. Furthermore, the presence of nuclear weapons has impacted on the military strategies in the region. On the other hand, Israel's destruction of Osiraq reactor has stalled an ambitious nuclear program in the Arab world. The Arab countries, however, possess weapons of counter value--chemical and biological--and do not need to embark on nuclear weapons program. The ultimate proposal is to have a nuclear weapons free zone in the Middle East.

BIOGRAPHICAL SKETCH

Group Captain Mohamed Bin Nasser Al-Rasby, Sultan of Oman's Air Force (SOAF), is a 1990 graduate of the Air War College. He joined the Sultan of Oman's Air Force in 1970 as a Helicopter Crewmember (Navigator). He served in the AB 205s for approximately two years before being transferred to the Administrative Branch upon loss of flying medical category. He was commissioned in 1975. After attending a series of courses with the Royal Air Force in the United Kingdom, he filled various administrative posts in the SOAF. In 1980, he attended the American University in Cairo and graduated in 1984 with a B.A. in Business Administration. He was then appointed Deputy Staff Officer Administration, HQ SOAF. In April 1986, Group Captain Al-Rasby was appointed Director of Administration, HQ SOAF. He has three sons and one daughter: Khalid, Hassan, Omar, and Kauther.

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CHAPTER I

INTRODUCTION

Background

Nuclear weapons pose the greatest danger to mankind and to the survival of civilization. It is essential to halt and reverse the nuclear arms race in all its aspects in order to avert the danger of war involving nuclear weapons. The ultimate goal in this context is the complete elimination of nuclear weapons.

> Program of Action,
> Final Document of the Tenth
> Special Session of the United
> Nations' General Assembly
> Devoted to Disarmament, 1978.

Following a period of rising tension, the Southern Lebanese resistance forces escalated their attacks on the Israeli settlements and their surrogates, the Southern Lebanese Army. The Israelis retaliated fiercely and overran some of the Lebanese villages killing scores of the elements of resistance and civilians including women and children.

Unknown to most of the intelligence services, including Israel and Syria, the Lebanese resistance had acquired, lately, chemical weapons. These weapons were located somewhere in the Syrian controlled area in the Bekaa Valley. The resistance, infuriated by the Israeli

retaliation, decided to fire two rounds of chemical warheads at the Northern Israeli settlements. Hundreds of civilians were killed and scores affected. Furthermore, the wind movement was such that some of the central Israeli villages were also affected.

This attack took the Israelis by surprise. The Israelis immediately decided to retaliate with a force of greater proportions. This meant the use of tactical nuclear weapons. This reaction falls in line with the declared Israeli position that they possess the ability to retaliate against a chemical attack "many times over."[1] Within a few hours, Israeli F-15Es were airborne carrying two tactical nuclear warheads. The warheads were released on designated locations in the Bekaa Valley. The result was even more devastating: thousands of people were killed including elements of Syrian troops in the Bekaa Valley.

The nuclear detonations were picked up by both the United States and the Soviet Union. The Syrians, unable to match the Israeli nuclear attack, asked the Soviets to fulfil their obligation of defending them under the Mutual Defense Agreement. The United States realizing the graveness of the situation warned the Soviets of any nuclear exchange on behalf of Syria. The tension between the two super powers heightened and, as a consequence, both countries put their strategic

nuclear forces on maximum alert.

The above hypothetical scenario could be discounted as a "non-starter." However, in the Middle East where antagonism between the Arabs and the Israelis is still running high, the probability of such a scenario could not be totally ruled out. Furthermore, this scenario emphasizes three issues: (1) that any possible confrontation between the two super powers is likely to be as a result of conflicts in the developing world, (2) nuclear proliferation in the developing world is a serious destabilizing factor of world peace, and (3) the super powers could be drawn into a nuclear confrontation not of their making, but due to their commitments to their surrogates--the very nature of the Peloponnesian War!

The political realities of the Middle East are such that most issues are related in some manner to the Arab-Israeli Conflict. Given the client relationships of middle eastern states with the superpowers, Mid-East politics are subsumed to a degree within an East-West framework. Acknowledging this sad reality, it seems that the Middle East will, for quite some time, remain an area of rivalries and intermittent occurrence of hostilities. The introduction of nuclear weapons into the area has, therefore, contributed to fuel this rivalry and hostility.

This paper will discuss the introduction of nuclear weapons in the Middle East, the impact of these weapons, the countries believed to be engaged in nuclear activities and possible scenarios for policies which would help in bringing

about stability in the region. The countries of the Middle East subjected to this study have either manifested noticeable investment in nuclear infrastructure or have expressed interest in nuclear weapons programs.

Middle East: An Important Yet Volatile Region

Like the position of the Balkan States before World War I, the Middle East today is the region of greatest concern. The countries of the region have managed to build strong alliances with the two super powers. The danger exists in the degree of commitment the super powers have pledged to support their allies. The military support is of extreme concern. The super-powers undertook to support their allies in the 1973 war--especially that of the United States at the initial stage of the war when Israel was taken by surprise. Both super powers went on nuclear alert, for only the third time since the Cold War began. While the 1973 war did not involve weapons of mass destruction, there is no guarantee that such weapons will not be used in future wars. But it is no longer only super power arsenals that may be involved. Israel and almost all of the frontline Arab States have acquired nuclear and chemical weapons in varying magnitudes.

The Middle East is an important region for the world's political and economic well being. In addition to its strategic position, the existence of oil makes it even more important. The Middle East produces approximately 25 percent of the world's oil, is the main exporter of oil to the West and Japan, and has

about two-thirds of the world's oil reserves. Furthermore, the existence of strategic waterways like the Suez Canal, Bab Al-Mandeb, and the Strait of Hormuz add to the importance of the region. Also, the rich Gulf States of the Arabian Peninsula are important markets for Western and Japanese goods.

Militarization of this volatile region, beyond the legitimate requirement for self defense, is a serious development which the West, especially the USA, should attempt to address. The introduction of nuclear weapons is an urgent reminder of this fact, especially as the region has already been infested with other forms of weapons of mass destruction. The use of chemical weapons in the Iran-Iraq War was a clear manifestation of the problem.

Revelation by Mordechai Vanunu

For quite sometime, the Arab States have had serious doubts about Israel's nuclear activities. These doubts were confirmed when the Sunday Times of Britain printed Mordechai Vanunu's testimony that Israel has got an underground nuclear facility and has been able to build nuclear bombs.[2] The analysis of the testimony, by western nuclear experts, confirmed that Israel had a sizeable stockpile of nuclear weapons--some experts put it to about 200 bombs. This revelation no doubt triggered angry reactions from several Arab countries, which called upon the United Nations to debate on the matter.[3] What outcome the Arab States hoped to achieve from United Nations deliberations was unclear knowing that the United States would

veto any resolution not in favor of Israel. But whatever was hoped for, it was still a further confirmation of the fact that the balance of power in the region has shifted in favor of Israel--at least for the time being.

CHAPTER II

ISRAEL'S NUCLEAR POWER STATUS: THE BALANCE OF POWER IN THE MIDDLE EAST, ARAB-ISRAELI CONFLICT

Israel's current nuclear superiority has challenged the Arab States. Indeed, nuclear rivalry in the region is mainly a direct function of the Arab-Israeli Conflict. The general view by the Arab States is that the nuclear race which has ensued can only bring catastrophe and destruction to the area. As if massive conventional forces were not enough, the region is already in a deplorable situation with the proliferation of other weapons of mass destruction and missile delivery systems.

The Arab delegates at the International Conference on Chemical Weapons which was neld in Paris in January 1989 insisted on the chemical-nuclear linkage.[4] This was a direct reference to Israel's nuclear arsenal. The irony is that Washington and most of the western countries did not voice strong enough objections to Israel's nuclear weapons program as they did on the chemical weapons program of some Arab States for example Libya, Syria, and Iraq. The truth of the matter is that the chemical weapons program of these Arab States, which have caught US attention, have been conceived and developed to counter Israel's nuclear weaponry. It was in this context that

chemical weapons were dubbed the "poor man's nuclear bomb."

It is an acknowledged fact that nuclear proliferation increases threats to international peace and security. Some advocates of nuclear weapons argue that possession of a bomb, of unknown size or effectiveness, is enough to maintain regional balance of power.[5] This argument is strongly contested for the very fact that the spread of nuclear weapons could lead to a conventional war as countries have shown the propensity to carry out preemptive strikes on nuclear facilities of a potential enemy (Israel, Iraq, Iran). What we now face is a complex situation whereby new types of destructive weapons have been introduced in the area by countries which could use them to settle their differences.

The search for an end to Arab-Israeli Conflict continues, but the fragility of the status quo and the potential for super power confrontation in the region could jeopardize the peace efforts. Added to the vexing problem of proliferation of weapons of mass destruction is that of missile proliferation. There is therefore a clear need to withdraw the motives of going nuclear, whether they are military status, prestige, or equality.[6]

The Arab-Israeli Conflict has so far been the dominant issue in the contemporary Middle East politics, although intra-Arab disputes and lately, the Iran-Iraq War have been of concern as well. Military option has also been a dominant tool in domestic and international politics. The Arabs and Israelis

have so far engaged in five major wars (1948, 1956, 1967, 1973, and 1982) to try to bring about a settlement that political maneuver could not bring about. Unfortunately, these wars have neither brought about total peace to the region, nor have they given Israel total security. Although the current peace initiatives have gained momentum, most of the Arab States have not been impressed with the results so far. The question asked is whether the peace initiatives will succeed or whether there will be another resort to force.

The military superiority of Israel, guaranteed by the United States, has been a thorny issue among the Arab countries--even those states which have strong ties with the United States. The process of the arms sales which ensures that Israel gets the best the US arsenals could offer, thanks to the Jewish lobby, implies that even countries like Saudi Arabia, which has the necessary dollars to pay for what they buy, are denied the equipment they desire. So, having been assured conventional superiority, what is the rationale for Israel's nuclear weapons program?

Israel's Nuclear Program

Israel's nuclear program is almost as old as the state itself. It began with the founding of high-powered nuclear research laboratories at the Weizmann's Institute near Tel-Aviv.[7] In the 1950s, the United States inadvertently encouraged Israel towards the bomb with President Eisenhower's "atoms-for-peace" program. Hundreds of Israeli nuclear

scientists were trained in America, and its first nuclear reactor was a 5-megawatt research reactor supplied by the United States.[8] This reactor used highly enriched uranium and could be used for making bombs. However, it was France and not the USA which was considered Israel's patron in nuclear weapons programs. France supplied Israel with the Dimona Reactor which is widely believed to be where the nuclear weapons program is carried out. France also shared sensitive nuclear technology with Israel during the early phases of the program.

Israel's original reason for embarking on a nuclear program was based on civil uses. Israel doesn't have sufficient oil resources and water is scarce. This gave them a legitimate interest in going nuclear for power production and for desalination plants. The requirement was, therefore, for a dual-purpose nuclear power plant that would produce electricity and sweet water.[9]

However in 1960, when the US spy plan spotted dubious structures in Dimona, relations between the United States and Israel were strained. Washington threatened to stop all US assistance on nuclear matters. Under pressure from President Kennedy, Israel agreed to American inspection of the nuclear facilities in Dimona. The inspections were less than satisfactory and at one time, a team of inspectors reportedly complained to the administration that the inspections were restricted by Israeli authorities. They further complained that they could not guarantee that the facilities at Dimona had no

weapons-related activity.[10]

Doubts continued on the Israeli nuclear activity and many speculations were made by the intelligence agencies notably the CIA. When faced with questions about their nuclear activities, the Israeli leaders maintained that Israel would not be the first country to introduce nuclear weapons in the Middle East. However, in 1982, an Israeli nuclear technician, Mordechai Vanunu, testified in the story published by the British Newspaper--The Sunday Times--on 12 October 1986, that Israel had a secret stockpile of nuclear weapons. This stockpile was estimated by western nuclear experts to be between 100 and 200 bombs. Furthermore, experts believed that Israel was advancing on nuclear weapons' technology from fission to that which rely on the hydrogen bomb principle.[11]

Israel's Motives and Strategy for Possessing Nuclear Weapons

Israel's possession of nuclear weapons has no doubt given it a military superiority of higher level. But, this advantage is temporary as, in the long run, it will not remain the only state in the Middle East with nuclear weapons. The danger lies in the role this new capability will play in Israel's national interest. Whether the Israelis adopt the "bomb-in-the-basement" approach or a "declaratory approach," to the Arab States, the fact remains the same. The most disturbing question though, is where the nuclear weapons fit in Israel's strategy and under what circumstances they may be used?

First, the ultimate concern of Israeli leaders is

national security and the survival of the state. This concern takes precedence over everything else. After all, the creation of Israel as a Jewish State followed the holocaust in which the Nazis attempted to exterminate the Jews in Europe. Therefore, the threat of annihilation occupies the national consciousness. Furthermore, not being recognized by all of its Arab neighbors, except Egypt, the Israelis have come to rely heavily on defense being the means of ensuring their survival. The Israeli leaders, therefore believe that the nuclear weapons play the role of being the ultimate weapon to ensure the survival of the Jewish State (hence, the "Survival Syndrome"). The irony of this perception is that by Israel introducing nuclear weapons in the Middle East, the Arab countries are now encouraged to follow suit. If the Arab States manage to achieve nuclear breakthroughs and build nuclear weapons, then the real threat to Israel's existence becomes a fact. Israel will have, therefore, brought to itself the negative effects of nuclear weapons.

Second, Israel has so far enjoyed a superiority in conventional weapons over the Arab States, made possible by Washington's commitment to the defense of Israel. The 1973 War, however, alerted the Israelis to the fact that their conventional superiority was not perpetual. The rise in oil prices made it possible for the Arab States to increase their military power. Besides, countries like Egypt and Iraq became successful in acquiring western armaments.

Third, the Israelis have been influenced by their close

association initially with the French and later, with the Americans who utilize their nuclear weaponry as an "international currency of power."[12] The Manhattan Project and the subsequent utilization of nuclear weapons by the United States in Japan during World War II legitimized the procurement, stockpiling, and possible use of nuclear weapons. These weapons became an important instrument of national security which brought in new dimensions in east-west relations. When the Soviet Union achieved nuclear power status and was regarded as a super power, the behaviors and policies of the USA and USSR evolved around their nuclear capabilities. This nuclear diplomacy gave birth to the politics of reliance on nuclear capability to secure national goals and interests.[13] Indeed, Israel seems to be emulating the French commitment to nuclear independence.

Fourth, perhaps the Israelis assumed that the introduction of nuclear weapons in the region was inevitable. The concern, having achieved their objective of manufacturing nuclear weaponry, was to stop the acquisition of such weapons by the Arab countries or at least postpone the acquisition. This action will ensure Israel's nuclear superiority. It was widely believed by the Arab States that Israel, shocked in the initial stages of the 1973 War, came close to resorting to nuclear weapons. This belief was later supported by a story published by Time Magazine in 1976 that Israel made preparations for possible utilization of their nuclear weaponry.[14]

Fifth, despite billions of dollars of US aid, including few more billions from the Jews residing in the United States and around the world, Israel's economic problems are acute. Those in Israel who support nuclear weapons programs argue that in the long-run, the level of deterrence inherent in nuclear weaponry will relieve Israel from enormous costs of development, production, and purchase of conventional arms in order to maintain superiority over the Arab armies.[15] Apart from arms acquisition, Israel's problems are compounded by its policy of establishing settlements in the occupied lands in addition to the costs of rehabilitation of new immigrants from the Soviet Union and Eastern Europe.

Consequently, it is therefore conceivable that Israel may decide to publicly acknowledge the existence of nuclear weapons while at the same time, reducing its conventional forces. Although, it may be attractive on economic grounds, it does signify the fact that Israel would narrow its options to nuclear disasters.[16] This is exactly the opposite of the current trend in both the NATO and Warsaw Pact.

Sixth, Israel's bargaining position with the United States would be enhanced. Besides having freedom of maneuver politically and strategically, the United States will be compelled to continue to support Israel in order to prevent it from resorting to nuclear option. Indeed this was the aim when the French helped Israel in its initial efforts to acquire nuclear weapons.[17]

Seventh, Israel's efforts in building a longer version of Jericoh missile--the Jericoh IIB--means that with a range of about 1500 km it can reach most of the Arab States, Iran and the southern parts of the USSR (see Table 1). The fact that Israel can target parts of Soviet Union may be a product of its quest to target most of the Arab countries including Iran. On the other hand, it may be argued that Israel hopes to deter significant intervention by the Soviets in any future Middle East conflict on behalf of the warring Arab countries by threatening Soviet targets.[18]

Table 1

Missile Proliferation in the Middle East and South Asia

(Nuclear-Capable Ballistic Missiles)

STATE	SYSTEM	RANGE (Km)	ORIGIN	ACCURACY	LAUNCHERS	MISSILES	PAYLOAD (Kg)
Israel[1]	Lance MGM-52C	110	USA	Good	<50 Mobile	<100	<250
	Jericho 1	200-480	France	Fair	Fixed/Mobile	N/A	450-680
	Jericho 11	490-750	Indigen.	Good	Mobile	N/A	750
	Jericho 11B	800-1450	Indigen.	N/A	R&D	R&D	N/A
Iraq[2]	SS-1c/Scud-B	160-300	USSR	Poor	20 Mobile	>100	500
	Husayn/mod. Scud	300-650	Brazil? N. Korea?	N/A	N/A	N/A	N/A
Iran	SS-1c/Scud-B	160-300	USSR? N. Korea?	Poor	Mobile	>20	500
Saudia Arabia	CSS-2/DF-3	2550-3000	PRC	Poor	Fixed Site	24-30	2000
Syria	SS-21 Scarab	120	USSR	Good	18 Mobile	>20	<500
	SS-1c/Scud-B	160-300	USSR	Poor	18 Mobile	>20	500
	M-9 Under Consider.	200-600	PRC	N/A	N/A	N/A	N/A
Libya	SS-1c/Scud-B	160-300	USSR	Poor	75 Mobile	>75	500
Egypt	SS-1c/Scud-B	160-300	USSR	Poor	9 Mobile	>10	500
	Alacran (Condor 11)	600-800	Argen-tina	N/A	R&D	R&D	600-1100
India	Prithvi	150-300	France/ FRG	N/A	R&D	R&D	1000
	SLV-3	1600-2500	USA/ France	N/A	Space Program	R&D	400

*

Source: Arms Control Today
January/February 1989

[1] Israel has also developed "SHAVIT" rocket which was used to launch the 156-kg "OFEK 1" Satellite on 19 September 1988.

Source: SAIS Review
Winter/Spring 1990

Table 1 (Cont)

[2] Other Iraqi missile developments include:

Al-Abbas	900 km
Condor-2	900 km (In cooperation with Egypt and Argentina)

Source: Jane's Defence Weekly
23 December 1989

* Pakistan has the following missile developments:

Hatf-1	100 km
Hatf-2	300 km

Source: Jane's Defence Weekly
23 December 1989

N/A = Not Available

No doubt the Soviet Union voiced its concern on the missile development. It further warned Israel that it could not maintain a monopoly on nuclear weaponry in the Middle East for a long time.[19] Whether this warning implies that the Soviets will help some of the Arab countries acquire similar capability was not clear. The development of nuclear capable Jericoh IIB missile could trigger a super power misunderstanding especially after the signing of the Intermediate-Range Nuclear Forces (INF) Treaty.

This development, however, does not seem to have induced Washington to make efforts to restrain this new strategic potential of Israel. Indeed, the advent of proliferation of long-range missiles in the Middle East is somehow legitimized by Israel's Jericoh program and Washington's inaction. Due to the strategic partnership between Washington and Tel-Aviv, the Soviets would consider Israel's nuclear potential supplementing Washington's. Furthermore, some analysts have indicated that this potential is directed to the "soft under belly" of the USSR.[20]

Ambiguity vs Declaratory Approach

Despite the confirmation by various intelligence agencies and Vanunu's testimony, Israel continues to deliberately foster ambiguity with regards to its possession of nuclear weaponry. As mentioned earlier, whether the "bomb-in-the-basement" approach is taken or a "declaratory" approach is manifested, to the Arab countries, Israel is a nuclear power.

However, there could be political/diplomatic and social benefits accrued from deliberate nuclear ambiguity.

By taking the "bomb-in-the-basement" approach, the Israeli leadership avoid the moral difficulties of taking a "declaratory" approach. Having suffered the Holocaust themselves, the threat of possibly killing thousands of innocent civilians would be intolerable. The Israeli psyche is still fresh with the experiences of the Holocaust.

Furthermore, nuclear ambiguity serves to lessen tension with its allies, notably Washington. It has allowed Washington to pursue its objectives in the area without manifesting conflict between its declared non-proliferation policy and its interests. In addition, Israel hopes to reduce the incentive for its Arab neighbors to embark on a nuclear weapons program.

Not all the Israelis subscribe to the nuclear ambiguity approach. Shai Feldman, of Tel-Aviv University Center for Strategic Studies, has taken the position that, because of their deterrence value, nuclear weapons should be part of an acknowledged strategic doctrine.[21] But how long this ambiguity doctrine will sustain is unclear. There is no doubt that the Arab countries will not wait long.

CHAPTER III

NUCLEAR PROGRAMS: ARAB COUNTRIES

The nuclear program of the Arab countries has been erratic at its best and improperly husbanded at its worst. The testimony of Mordechai Vanunu confirmed the "open secret" of the Middle East. No doubt the revelation posed as a reminder to the Arab states that, once again, Israel has secured a military edge over them. If, however, a single Arab country (or more) succeeds in possessing nuclear weapons and a means of delivery, that should serve as a nuclear deterrent to Israel. This situation would create a balance of terror in the Middle East. The question is--what are the nuclear capabilities of the Arab countries?

Egypt

From the early years, Egypt was concerned about Israel's nuclear activities. President Nasser warned of preventive strike should Israel pursue nuclear weapons programs. At the same time, despite these warnings, Egypt's own nuclear program was rudimentary. The Egyptian scientists lacked the consistent political support that the Israeli scientists got from Israeli leadership.[22]

In order to counter Israel's program, Egypt took steps

in the early sixties to develop its own nuclear infrastructure. German scientists were hired to help out. However, serious efforts were made to get the help of the Chinese, and later the Indians in the acquisition of sensitive nuclear technology. Apparently, talks with Peking were not successful. The Egyptians then turned to India. All that was concluded with the Indians was the training of Egyptian scientists.[23]

The Suez War followed by the 1967 War served a serious setback to Egypt's nuclear program as attention and resources were directed towards the war effort and rebuilding the Armed Forces in the aftermath. Later on, Egypt and Syria successfully launched the 1973 war even though both Presidents Sadat and Assad may have been aware of Israel's nuclear capability.

The Egyptian Government seems to have dropped the earlier efforts of acquiring nuclear weaponry by ratifying the Nuclear Non-Proliferation Treaty (NPT) in 1981, two years after the Camp David accord. Initially, Egypt proposed to Israel that both countries should sign the treaty and renounce nuclear weapons. But, Israel rejected the proposal on grounds that even having made peace with Egypt, it still has got to face Iraq, Syria, and other Arab countries. Egypt then ratified the treaty after it became evident that Israel would not do so.[24]

Today, Egypt remains committed to peaceful nuclear programs. It had carried out negotiations with the United States in buying two Westinghouse reactors for producing electricity. Its existing Soviet supplied research reactor is

subjected to International Atomic Energy Agency's (IAEA) safeguards. One of the important achievements the Egyptians have made so far in the nuclear field is the training of large numbers of scientists--thus, creating an important manpower base.

Syria

The Syrian Atomic Energy Commission was formed in 1976 in order to monitor and direct Syrian nuclear program. The Soviet Union have recently supplied Syria with a 10 MW nuclear research reactor similar to that supplied to Libya. It is not apparent whether the construction of the reactor is completed by now.[25] This signifies Syria's efforts in embarking on an indigenous nuclear program. Syria has signed the NPT and ratified it in 1969. In the meantime, it is believed that the Syrians have been included under the Soviet nuclear umbrella as part of the friendship treaty signed in 1980.[26] While ineffective in nuclear programs, the Syrians have invested heavily in chemical weapons to offset Israel's nuclear weapons capability.

Libya

One of the most ambitious Arab country in the acquisition of nuclear weapons is Libya. Since his early days as Libya's President, Colonel Qaddafi sought nuclear weapons capability as a response to that of Israel's. His strategy was two-pronged: trying to buy a nuclear bomb off-the-shelf and at the same time, developing an indigenous nuclear infrastructure.

In trying to buy ready made nuclear bombs, Colonel Qaddafi approached the Chinese, but was unsuccessful. Colonel Qaddafi also tried to purchase a nuclear bomb from the international underground market promising one million dollars to anyone who could provide him with one. This offer was allegedly taken by Edwin Wilson, a former CIA agent, who pretended to be able to satisfy Qaddafi's quest for a nuclear bomb. The former agent was apprehended by US authorities.[27]

The second strategy was developing Libya's indigenous nuclear weapons capability. The main focus of their efforts, was to acquire the technological know-how in building a nuclear fuel cycle. The Indians were approached in 1978, but Qaddafi did not achieve much success. After that, Colonel Qaddafi approached the Pakistanis who were eager to redress the military imbalance brought by India's nuclear test in May 1974. It was widely believed that Libya offered to subsidize Pakistan's nuclear programs in return for having access to critical technological know-how. Again, the Libyans did not seem to have been successful.[28] Further contacts and initial agreements were made with France, Argentina, and Belgium, but all were shelved due to intervention by Washington.

The Libyans were, however, successful with the Soviet Union. Agreements were made between the two countries to build a nuclear research center at Tajora, near Tripoli, and the construction of 10 MW research reactor. The Soviets demanded the Libyans ratify the NPT, which it did, as a precaution

against Libya embarking on nuclear weapons program. It is also believed that negotiations between the two countries were carried out to build two more nuclear power reactors. The current status of these negotiations is not known.[29]

While the Libyan's have got some basic nuclear infrastructure, they still lack the nuclear fuel cycle technology that would give them the necessary nuclear material to make bombs. Furthermore, Libya lacks the necessary manpower of nuclear trained scientists. To make up for the shortfall in scientists, the Libyan Atomic Energy Commission has been able to attract foreign scientists to run their nuclear facilities and help in training Libyan nationals.

Apart from dealings with foreign countries, Libya had fostered cooperation with Egypt in nuclear programs notably during President Narser's regime. This cooperation did not culminate in any major breakthrough. The best result so far is Libya's continuing link with scientists from Egypt despite the rather poor relations between the two countries.[30]

Iraq

Iraq is another Arab country to have an ambitious nuclear program. In fact, its quest for nuclear technology is both consistent and aggressive. Iraq's nuclear program was made possibly by its enormous revenues from oil exports. Apart from the small Soviet supplied research reactor at Tuwaitha Atomic Centre, the Iraqis approached the French Government seeking a general nuclear cooperation. Iraq's original desire to buy a

gas-graphite reactor was not approved by France, perhaps having sensed an ulterior Iraqi motive.[31] An alternative reactor was offered to Iraq instead and named Tammuz (Osiraq--by the French) after the month in the Arabian calendar in which the Ba'th party came to power.

The Iraqis maintained that their quest for nuclear technology was peaceful and refer to their ratification of NPT and subjecting the Towaitha Complex to IAEA safeguards as proof. However, the deal for Osiraq reactor and its controversial fuel (highly enriched uranium--93 percent) sparked debate about Iraq's nuclear program. The controversy heightened when Iraq bid to purchase uranium ore, fuel-fabrication, and facilities for reprocessing fuel in its quest to create a plutonium cycle. Furthermore, the Iraqis approached the Italians to buy another reactor--a 40 MW heavy-water reactor, which experts say would fit well with the plutonium strategy.[32]

Iraq's nuclear ambitions were not without problems. The United States applied international pressure on Iraq through its dealings with the French and Italians. Furthermore, it was widely believed that the Israelis undertook to sabotage Iraq's efforts. The first of such incidents was the bombing of two nuclear reactor cores designated for Iraq which were at the French town of La Seyne-Sur-Mer waiting shipment to Baghdad. The second incident involved the assassination of Dr. Yahya el-Meshad, an Egyptian scientist working for Iraq, in the Meridien Hotel in Paris. The third incident involved the

bombing of the Rome offices of SNIA Techint, an Italian nuclear company contracted by Iraq. The fourth incident was an unsuccessful assassination attempt of a French scientist working on the Osiraq project.[33]

Apart from acts of sabotage, the Tuwaitha complex was attacked by the Iranians on 30 September 1980, causing minor damages. However, a devastating attack was carried out by the Israelis (code name--"Operation Babylon") on 7 June 1981. The attack totally destroyed the Osiraq reactor.

Currently, Iraq's nuclear program is dormant. The repair of Osiraq was promised by the French, but not yet fulfilled. Furthermore, the agreement with the Soviets to supply Iraq a nuclear power plant has not been implemented. However, despite the setback as a result of Israeli attack, Iraq's long-term capability lies in its cadre of trained scientists and also its petrodollars.[34]

Nuclear Programs: Iran and Pakistan

While not an Arab country, Iran's position makes it a major player in the politics of the Middle East. Iran's nuclear program was started by the late Shah whose plan was to have up to 20 nuclear reactors. Apart from a small 5 MW research reactor at Teheran University, the late Shah had commissioned the building of 2 reactors at Bushehr by the West Germans and 2 more at Darkhovin to be built by the French. The Iranian revolution and the war with Iraq were major setbacks to this program. Furthermore, the Iraqis carried out air raids on

Bushehr 1, which was 75 percent completed, fearing Iranian advances in nuclear technology. The Iranians are currently eager to revive their nuclear program and have lured some of their scientists, who fled the country during the revolution, to return to Iran and assist with the nuclear program. Furthermore, in addition to reviving ties with West Germany, directly or indirectly, through Germany's links with Argentina, Iran has made deals with Argentina to train Iranian scientists and engineers and perhaps involving them in some other projects in Iran.[35]

Another non-Arab country to have profound impact on nuclear realities in the Middle East is Pakistan. It is now widely believed that Pakistan has crossed the nuclear threshold, and has developed an indigenous capability to manufacture nuclear weapons.[36] Pakistan's main reason to develop this capability was to redress the imbalance created when India developed that capability in 1974. The relevance of Pakistan's capability to the Middle East is twofold. First, it is widely believed that Libya and later, Saudi Arabia have financed the Pakistani program. Israel's allegation is that Pakistan may supply to some of the Arab countries a nuclear weapon--the so-called "Islamic Bomb." Second, Pakistan's efforts in developing intermediate-range delivery missiles implies that in the future it could place nuclear weapons on targets in the Middle East. Israel's concerns have led it to approach India secretly proposing a joint preemptive strike such as Israel did

at Osiraq.[37]

Destruction of Osiraq: Begin's Doctrine

The destruction of Osiraq was a flagrant violation of international law and had a destabilizing influence in the politics of the Middle East. Israel has carried out attacks beyond its borders on various occasions. In Lebanon, the Israelis seem to have a freehand. The Israelis also bombed the Palestine Liberation Organization (PLO) headquarters in Tunisia. These attacks across international borders signify Israel's aggressive military policy towards its neighbors. The attack on Osiraq was a culmination of Israel's efforts to sabotage Iraq's nuclear program.

Israel's commitment to ensure its military superiority over the Arab countries shows no concern for international law and order. To have a monopoly on nuclear weaponry, Israel adopted what was dubbed "Begin's Doctrine" declaring that "Israel would not tolerate any enemy, whether Arab or non-Arab acquiring nuclear weapon capability."[38] The reference to "non-Arab" was perhaps meant to include Iran and Pakistan. This unique approach to world politics reflects Israel's aggressive attitude, and sets a serious precedent in its complete disregard of international law and order.

This doctrine suggests a scenario whereby Israel has a monopoly on nuclear weapons and denies the right of its adversaries to redress the balance of power. This single-handed approach is the worst case scenario which could be applied to

the Middle East. It would not stop the ensuing arms race and at the same time, it would not deter some of the Arab countries to acquire nuclear weapons in the future. Furthermore, the search for peace and stability in the region will not be made easier.

Most of the countries and the international bodies (Arab league, UN, IAEA, European Council) condemned the attack and the so-called "Begin Doctrine." The United States' reaction was somehow mixed--of course, due to its close ties with the Israelis, and perhaps due to allegations that it knew beforehand of the attack, and perhaps facilitated it.[39]

While it has suspended Iraq's progress in its nuclear program, the attack on Osiraq has no doubt, stimulated Iraq's resolve in its quest for nuclear weaponry. In the aftermath of the raid, Iraqi President Saddam Hussain called upon "peace-loving nations of the world to help the Arabs acquire nuclear weapons to balance Israel's nuclear capability."[40] President Saddam Hussain said it was rational for the Arab countries to acquire nuclear weapons as a remedy to the situation existing in Israel.

Possible Arab Strategies vis-a-vis Israel's Nuclear Weaponry

There are various strategies which the Arab countries could adopt to counter or nullify Israel's nuclear weapons capability. First, and perhaps the most preferred strategy is to try to establish a nuclear weapons "free zone" in the Middle East. This is to begin with Israel signing the nuclear non-proliferation treaty and also subject its facilities to IAEA

inspection and safeguards. Unfortunately, until now there has been little progress in this field. Various efforts were made through such international bodies as UN, NPT, and IAEA regimes, but the efforts were in vain. More noticeably was Egypt's efforts to encourage Israel to sign NPT during Camp David peace accords. The attempt was not successful.

Second, the Arab countries which have good relationships with the USSR could seek the Soviet's nuclear umbrella--as it is widely believed to be the case with the Syrians. This move could, in a way, correspond with the United States' guarantee of the existence and security of the Jewish State. While this option seems attractive and perhaps less costly materially, the political costs could be heavy. Furthermore, the Soviet's commitment to providing nuclear umbrella to such Arab countries would not match the sort of commitment Washington has pledged towards Israel. In addition, with Perestroika and Glasnost, perhaps the Russians would not be eager to enter into such a commitment. Finally, such actions could trigger superpower confrontation in any future Middle East conflict rather prematurely.

Third, if Israel currently has a monopoly in nuclear weapons, the Arab countries could choose to depend on large stocks of other types of weapons of mass destruction which include chemical and biological warheads. Furthermore, the proliferation of missiles, short-range or medium-range, makes delivery to targets much more feasible (see Table 1). This

reliance on a rather cheap weapon of mass destruction could in a way reduce the strategic effect of Israel's nuclear weapons. The balance of terror will be maintained. Sadly, this strategy will not help towards the United Nations' efforts in the elimination of chemical and biological weapons the world armies hold.

Lastly, for strategic balance to become a fact, the Arab countries directly affected by the Arab-Israeli Conflict could pursue the nuclear option. While the other weapons of mass destruction have, to a certain extent, the effect of counter-balancing Israel's nuclear capability, there are countries which think the nuclear option is the best way to deter a nuclear capability citing the current state of deterrence between the two super powers. Countries like Egypt, Iraq, Syria, and Libya have varying capabilities to embark on nuclear weapons programs. Iraq and Libya have explicitly expressed desires to possess nuclear weapons. On the other hand, Egypt and Syria are perhaps restricted economically and/or politically due to their alliances with Washington and Moscow, respectively.

CHAPTER IV

EFFECT OF NUCLEAR WEAPONS ON MILITARY STRATEGIES

As the political process, currently taking place, seems to be protracted and perhaps reaching a deadlock, there are analysts who profess that neither Washington nor the peace pact with Egypt will be able to bring enough pressure upon Israel to give up the occupied lands. Military options could not be completely ruled out. If one or two Arab countries achieve nuclear power status, the strategies of employing/deploying forces will considerably change.

First of all, Israel will have to review the so-called "Begin Doctrine." Preemptive strikes on nuclear facilities once functioning could bring catastrophe to Israel. Begin was quoted as saying that Israel will attack Iraq's nuclear facilities again if Iraq tries to produce nuclear weapons.[41] The danger here is that as the attack on Osiraq has shown, Israel will find itself in a situation whereby it may compel itself to take preemptive action on any nuclear facility in the Middle East. This is true because it has become difficult to draw the dividing line between civil and military exploitations of nuclear technology. Indeed, another Israeli attack on any nuclear installation of an Arab country could have serious

consequences.

Consequently, any future military confrontation between Israel and Arab States could generate anxieties about possible escalation of conflict beyond use of conventional weapons. Indeed, one of the big decisions would be applying control and self-restraint in the escalation of war. The lack of trust between emerging nuclear states could precipitate early utilization of nuclear weapons rather than risk their destruction.

Furthermore, to complicate matters, the delivery vehicles which could be utilized for nuclear weapons are the same for conventional weapons. The dual function of some of the advanced fighters and missiles would contribute to uncertainty of whether a state is preparing for nuclear attack or conventional arms have been loaded. Thus, the risk of escalation through miscalculation could be very high.[42] Indeed, the fear of attack on these delivery systems which have dual function, could lead to preemptive nuclear strikes since the loss of these systems would render nuclear warheads ineffective.

Apart from bringing about nuclear deterrence, nuclear parity would force Israel to review the posture of its forces. Israel depends heavily on its rapid mobilization system in wars. With nuclear and even other weapons of mass destruction becoming a factor, Israel may be forced to maintain a high percentage of active troops fearing preemptive Arab strikes which could seriously disrupt its mobilization system. Furthermore,

Israel's strategy on fighting wars beyond its borders will suffer due to the fact that Arab States do possess delivery vehicles which could launch nuclear warheads well within Israel.[43]

Strategically, the Arab world as a whole is vast compared to Israel. Israel has a far smaller population on a rather tiny piece of land. One or two primitive atomic bombs dropped on major Israeli cities would be a holocaust. It might spell the end of the Jewish State. Furthermore, the physical and biological effects of Israeli nuclear attacks on nearby neighbors could harm Israel as well due to nuclear fallout. Perhaps that is why some analysts have speculated that Israel may strike an Arab city far away to escape nuclear effects, and at the same time, serve as a warning to the nearby countries.[44] This scenario complicates even further the politics of a nuclear Middle East. It would affect countries not in direct confrontation with Israel, in the same way an Arab attack on Israel would affect tens of thousands of Palestinians living in Israel and the occupied lands.

Israel's lack of "strategic depth" restricts its second strike capability. (However, this postulation would change if speculations are true that Israel and South Africa are venturing in nuclear-powered submarine--a viable second-strike capability.)[45] If, on the other hand, Israel strikes first--whether a nuclear state or not--there is a high probability that the Arab countries would be able to absorb the first strike and

have the capability of a second strike, whether nuclear or chemical. In this scenario, Israel's nuclear deterrence loses credibility. Faced with the forces of Jihad, Israel would find itself in a difficult position unless it strikes several Arab countries simultaneously. In this case, this will be the beginning of a global nuclear war involving the super powers.[46]

While the two super powers have invested considerable amounts of money and efforts in safeguarding their nuclear forces from accidental firings, it is highly unlikely that new nuclear countries in the Middle East would undertake similar precautions. Hence, by adoption of risky command and control measures, these states could jeopardize global peace and stability.[47] On the other hand, the super powers would be reluctant to assist such states in order not to encourage proliferation. Unfortunately, these realities make the existence of nuclear weapons in the Middle East a nightmare.

CHAPTER V

NUCLEAR NON-PROLIFERATION REGIMES

Nuclear Non-Proliferation Treaty/International Atomic Energy Agency

The Nuclear Non-Proliferation Treaty (NPT) and the International Atomic Energy Agency (IAEA) are the two primary international regimes tasked with monitoring nuclear activities of member countries. Founded in 1968, it came into effect on 5 March 1970. There are now over 130 member countries. The treaty promotes peaceful uses of nuclear technology and its main objective is preventing the spread of nuclear weapons. The five nations recognized by the treaty as nuclear nations (US, USSR, China, France, and Britain) were to help other nations in developing peaceful nuclear facilities with the promise not to attempt to build nuclear weapons. Furthermore, the two super powers were to pursue negotiations which would lead to nuclear disarmament.[48]

In the Middle East, Israel is the primary non-NPT member. Its nuclear facilities are not subjected to international inspections and safeguards. When it attacked Iraq's reactor, it attempted to discredit the NPT regime claiming that the regime was not stringent enough and Iraq had

been exploiting it.

The IAEA safeguards ensure that nuclear technology transferred to developing countries is put to use in a safe manner and that nuclear fuel is accounted for. It further provides technical assistance to these countries. The agency's tasks include reporting requirements of these nations, auditing of nuclear materials, and on-site inspections. The Arab countries discussed above have all signed the NPT and have subjected their existing nuclear facilities to IAEA safeguards. The Osiraq reactor was subjected to IAEA inspection.

While both the NPT and the IAEA regimes may have shortcomings, they provide a good vehicle for international cooperation on nuclear technology and also for ensuring peaceful use of this technology. One of the major setbacks in the agencies' efforts is the continued political quarrels among its members, in addition to political instabilities in some regions; e.g., the Middle East. The agencies' task has also been made difficult due to the risk of secondary proliferation.

Other Regimes

In order to strengthen the international monitoring regimes, the industrially advanced countries, exporters of nuclear technology, have established control regimes of their own. The London Supplier's Group, Nuclear Supplier's Group, and the EUROATOM have all been established to firstly, restricting transfer of nuclear technology; and secondly, to make it more difficult for countries to acquire sensitive nuclear technology

for making weapons. The Soviet Union and China (non-NPT member) are not officially members in these groups although they have voluntarily pledged to apply some of the provisions of the groups. It is worth noting that Moscow has so far been quite restrictive in its nuclear assistance to other countries. In fact, the Soviets are much more cautious than the western governments.[49]

The United States, Israel, and Non-Proliferation

Ironically, while it is widely acknowledged that the USSR exercises strict control on transfer of nuclear know-how, the position of the United States has so far been shaky. The United States controls about 70 percent of the world trade in nuclear technology and associated materials, and therefore, its obligation towards nuclear non-proliferation cannot be ignored.[50] Indeed, the United States, being the first and only user of nuclear weapons, took the leading role in establishing the NPT. However, it has so far given bad examples in its dealings with non-NPT countries.

The United States' initial non-proliferation drive goes back to the Ambassador Bernard Baruch's plan which was presented to the UN Atomic Energy Commission in 1946. In the same year, the Congress passed the Atomic Energy Act which was to keep the atom bomb a secret. However, this effort did not last long as in 1949 the Soviet Union tested its first nuclear bomb followed, in 1952 by Britain, France in 1960, and China in 1964.[51]

Later on, President Eisenhower's "Atoms-for-Peace"

program was adopted by the United States which opened cooperation with other countries in nuclear energy. This cooperation was limited to countries that agreed to certain US control measures.[52] Several countries benefited from this plan. However, it was not effective in controlling proliferation. In order to impose even tighter control and linking this control with foreign assistance, the Congress enacted the Nuclear Non-Proliferation Act of 1978. This action was later followed by the Glenn-Symington amendments which prohibited aid to countries that export/import uranium enrichment technology or materials; and export/import nuclear reprocessing equipment or materials.[53]

The above provisions provided the basis for Washington's cutoff of aid to Pakistan in 19,) when the uranium-enrichment plant near Islamabad was first discovered. However, the US non-proliferation policies later on became victim of domestic and international political considerations. For example, the Reagan administration got a waiver and resumed massive military aid to Pakistan in order to get Pakistan's cooperation in aiding the Mujahiddin against the Soviets in Afghanistan. But, it is Washington's non-proliferation policies towards Israel which leave much to be desired.

Since President Johnson, successive US presidents made no efforts to curb Israel's nuclear program. The United States continues to press for non-proliferation principles in the Middle East, while turning a blind eye on Israel's nuclear

activity. This double standard has proved to be Washington's "Achilles Heel" and has cost its credibility on the issue.

Given the strong and unique relations between the United States and Israel and also the strong Jewish lobby in Congress, it is doubtful whether the United States would be prepared to mount pressure on Israel regarding its nuclear activities. In fact, Washington may have passed the point at which it could have exercised leverage on Israel. Indeed, the administration has directly or indirectly helped Israel in its nuclear weapons program. By continuing massive aid to Israel, the United States has bankrolled the program. In addition, the free exchange of scientists have allowed Israel access to US technology and scientific know-how. Washington has also been less vocal about Israeli smuggling of nuclear components and materials as it was, for example, about Pakistani operations.[54]

The current situation has, in fact, put Washington in a critical position in that it could be a potential victim of Israeli nuclear endeavors. If Israel decides to use nuclear weapons against any Arab country, this could spark global holocaust. On the other hand, Washington's efforts to discourage Israel from relying on a strategy which would allow it to use nuclear weapons has forced Washington to guarantee Israel continuing flow of conventional arms. Israel is also guaranteed military superiority over the Arab countries. This factor was clearly demonstrated in the events which led to Washington's extensive resupply of weapons to Israel in the

early days of the 1973 War.[55]

The United States' reaction to Israeli attack on Iraq's nuclear reactor was also disturbing. The United States saw the shortcomings in the safeguard systems espoused by IAEA as a reasonable excuse for Israel's action. Rather than taking action to strengthen the IAEA, the United States dealt it a serious setback. Furthermore, Washington withdrew from IAEA general conference in October 1982 when the delegates attempted to isolate Israel. Congress froze funds for the agency until such time as the IAEA Board of Governors certified that Israel was welcome. Washington later resumed participation in the agency in February 1983.[56]

The declaration by Mordechai Vanunu confirmed to the world Israel's nuclear power status. However, Washington's reaction to this revelation was mild. This incident further deprived the United States of its credibility. Based on these incidences, the Arab countries, no doubt, view Washington's policies regarding chemical weapons suspiciously. In fact, Washington is asking the Arab countries to unilaterally disarm in the face of Israel's nuclear threat. Despite the above events and concerns, Israel will continue, no doubt, to enjoy umbilical link to the USA.

Finally, the various control regimes will continue to function only and only if all the countries cooperate fully in achieving the overall objective of global nuclear disarmament. In this regard, the five recognized nuclear countries and

particularly the US and USSR, need to press on in nuclear arms reductions. So long as nuclear weapons continue to dominate the strategies of these countries, the non-proliferation principles will remain weak.

CHAPTER VI

PROSPECTS FOR THE FUTURE: POSSIBLE SCENARIOS

The introduction of nuclear weapons in the Middle East has jeopardized the peace process and has brought about a strategic imbalance in the region. What could be done to redress this imbalance and give the peace process a chance to succeed? There are three possible scenarios which could be applied in addressing this question: uncontrolled nuclear proliferation, controlled nuclear proliferation, and total ban on nuclear weapons thus creating a nuclear weapons "free zone."

Uncontrolled Nuclear Proliferation

Uncontrolled nuclear proliferation would give nations the right to defend themselves in a manner which they wished and in which they could afford. Uncontrolled proliferation would also give countries the prestige and status of a nuclear power in addition to political clout. Indeed, the Israeli nuclear program and the decision to manufacture nuclear weapons was to give Israel a means of last resort in defending the Jewish State. This capability was also to have psychological effect on the Arab countries by creating despair in them about eliminating Israel.

This scenario legitimizes counter deterrence and

promotes the existence of a balance of terror. Thus, the Arab countries would have legitimate cause to manufacture nuclear weapons. This scenario alludes to the fact that nuclear deterrence between the super powers seems to have contributed to stability in Europe for approximately 40 years. Therefore, the same fact should hold true in other regions of the world. But, while mutual deterrence has succeeded in Europe, such a scenario in an unstable Middle East would give rise to new dangers and instability to global peace. This could easily spark "World War III."

The nuclear Non-Proliferation Treaty would be redundant although the IAEA services would still be required by countries requiring technical assistance and know-how. No doubt such a move would seriously hamper international efforts to bring about peace and stability in the world.

The suppliers' control groups would also be redundant. Perhaps trade would flourish among these countries. The question which poses itself is whether non-nuclear European countries would remain so. Also, what effect this would have on East-West relations? Furthermore, what impact would this scenario have on the Arms Reduction Talks and the INF Treaty?

What effect would this scenario have on the Arab-Israeli Conflict? The reality of the situation would make countries very cautious in stirring up another armed conflict. Nuclear frontline Arab countries, especially Syria, would be restrained to force a military solution to regain the Golan Heights (the

case existing now). On the other hand, Israel will no longer have free access in its military adventurism outside its borders. Furthermore, this situation may render the current Israeli occupation of Arab lands a fact if Israel continues not to cooperate in the peace process.

The Palestinian liberation organization would be the main loser in this scenario. They would have to depend heavily on the peace process and also on the good will of the international community, especially the USA. Their ability to mount attacks across borders would perhaps come to a halt. (They are now restricted to mount attacks only across the Lebanese border.) Their ability to mount attacks within the occupied lands would continue to be unrestricted as is the case now. Finally, this scenario would not help the situation in Lebanon as prospects for peace would vanish and the military situation inside its borders (Syria vs Israel) would become worse.

There would appear to be few, if any, winners in this scenario. In fact, all players have something to lose as instability increases. Uncontrolled nuclear proliferation would affect not only the region, but the world and make nuclear conflict more likely, whether this conflict was direct (Arab-Israeli), indirect (super powers), purposeful (a first strike) or unintended (human, electrical, or mechanical malfunction), the results would be horrific. It is definitely the option to be avoided if at all possible.

Controlled Nuclear Proliferation

Conceptually, a controlled proliferation scenario is, perhaps, a better option than the uncontrolled proliferation scenario. If anything, this scenario brings about some measure of control in the proliferation of nuclear weapons. But, the main challenge here is on what basis such "controlled" proliferation would be allowed and which international body would sanction and monitor proliferation?

The situation in Europe does not give a sound analogy for controlled proliferation. While the main deterrence against Soviet nuclear arsenals is provided by the USA, France and Britain also have nuclear weapons of their own. Besides, nuclear weapons have been installed in various countries facing one another between the two pacts. Organizing such clusters of countries in the Middle East is a difficult if not an impossible task. While Israel stands alone as the main common enemy, which of the Arab countries would be allowed to develop nuclear capability? Or which of the conglomerates should go nuclear--the Arab Gulf Cooperation Council, the Arab Cooperation Council (North Yemen, Iraq, Jordan, and Egypt), the Maghreb Council or, Syria, which does not belong to any of these groups. Perhaps it would be Egypt or, more likely Syria, as Egypt has signed a pact treaty with Israel. If Syria goes nuclear, would that remove Iraq's right to go nuclear? Syria does not get along with both Israel and Iraq! The basic question here is that if subsequent rivalries develop in the future, should that process carry with

it the incentive or automatic right to go nuclear?

There is one last possibility. That is a sort of natural selection, a proliferation based on a combination of political will, technological capability, and financial assets. Only a few countries at most can develop nuclear weapons. Fewer still would actually do it. The others, for a variety of reasons would either be unwilling or unable to do so. Unfortunately, the list of likely candidates to develop nuclear weapons (Iraq, Libya, Iran, etc.) is larger than one would like and is itself a cause of further proliferation.

The above unanswered questions manifest the difficulties of implementing the scenario. On the other hand, there is a possibility that the international body according rights to go nuclear would be polarized by the United States and USSR. No doubt, interests would differ and it would be impossible to agree on preferred countries. Furthermore, would super powers and the industrialized countries help out the selected countries in developing their nuclear weapons? How would these countries fit in the East-West relations and the current deterrence between the super powers?

Again, the effect this scenario would have on the Arab-Israeli Conflict and the peace process would be the same as that of the uncontrolled proliferation scenario. Clearly, the above scenarios do not offer the ingredients of rendering the Middle East a stable region in the world. Indeed, the situation in the Middle East is highly unstable now and allowing the

proliferation of nuclear weapons would not stabilize the region. Furthermore, the existence of a "nuclear balance of terror" would not eliminate the deep hatred and antagonism between the Arab countries and Israel. Thus, a "psychological balance" should exist. Its nonexistence, currently, increases the likelihood of miscalculation and escalation of a crisis into a nuclear confrontation.[57]

Additionally, the peace process in the Middle East would be severely hampered by nuclear proliferation. The Palestinians' quest for self-determination and a homeland would stall. The ability of international organizations and the super powers in brokering peace in the region would be severely restricted. Also, the super powers' nuclear strategy, including arms reduction talks, would be affected. The goal of eliminating nuclear weapons or substantially reducing them would not be achieved.

Finally, nuclear proliferation increases the possibility of nuclear terrorism. It is not inconceivable that certain terrorist factions could, in the future, acquire nuclear technology and know-how to manufacture a bomb however rudimentary. The proliferation of nuclear weapons would enhance this likelihood. If countries have been engaged in clandestine operations, smuggling, stealing, and diverting nuclear components and materials; there is nothing to stop the terrorist organizations from doing just that. By acquiring this capability, terrorists would be able to blackmail countries and

increase terrorist threats. On the other hand, if a bomb is detonated by terrorists, what shape would retaliation take? Where would it occur? Would a country affected retaliate against another country, which perhaps had nothing to do with the terrorists? These facts and unanswered questions paint a gloomy picture of nuclear proliferation. It is for these reasons, that the third scenario is preferred.

Nuclear Weapons Free Zone

Adherence to the NPT, by countries of the Middle East, is a first step towards establishing a nuclear weapons free zone in the region. If we are to consider countries which are directly involved in the Arab-Israeli Conflict, and at the same time, assess major military powers in the region, we see that Israel is the only country which is not part of the NPT regime. As mentioned before, Israel's non-recognition of the effectiveness of NPT and IAEA led it to attack Iraq's nuclear reactor which was subjected to IAEA safeguards. The NPT's basic tenet is that the world is better off and safer without nuclear weapons.

While recognizing the five nuclear powers, the NPT's main objective was to block new countries from joining the club. Israel has so far refused to sign the NPT claiming that the treaty does not provide adequate security guarantees. The reported Israeli nuclear activity during the 1973 war, and the subsequent super power involvement prompted both Egypt and Iran to introduce a proposal at the United Nations, in 1974, for a

Nuclear Weapons Free Zone (NWFZ) in the Middle East. The resolution was passed without dissent (Israel abstained) and has been reaffirmed in subsequent meetings of the General Assembly since then.[58]

The concept of a NWFZ, which is a supplement to NPT, provides a useful framework for reducing the likelihood of a nuclear war in the Middle East. It further contributes to reducing the risks of a nuclear arms race, hence, reducing tension. In applying the concept of the NWFZ, the middle-eastern states could be asked to pledge "never to receive, store, install, deploy, encourage, or authorize the testing, use, manufacture, production, possession, or control of any nuclear weapon."[59]

The deliberations in the United Nations on establishing a NWFZ in the Middle East focused on Israel since the first voting on the UN resolution--which took place in 1974, in which, Israel abstained. However, in November 1980 Israel voted in favor of the proposal, but favored the Latin American model of a NWFZ--called the "Tlatelolco Treaty." The Tlatelolco Model was derived following direct negotiations among countries concerned. Israel professed that such a process would provide more secure and rigorous nuclear safeguards. Israel further suggested that its proposal was not linked to any political or legal aspects of the Arab-Israeli Conflict.[60]

While the Tlatelolco Model has so far worked in Latin America, the model could not be applicable in the Middle East.

The model was concluded before any country in the region attained nuclear weapons and after the countries of the region indulged in direct and uninhibited negotiations. On the other hand, the Middle East suffers from instability due to complex political and military situations. Furthermore, the Arab-Israeli Conflict is still without a solution. These considerations, therefore, render the prospects of direct contact between the Arab States (apart from Egypt), and Israel remote, if not impossible.[61] An essential step toward a NWFZ would, therefore, require Israel's recognition of the NPT and subjecting its nuclear facilities to IAEA safeguards. This process would be the cornerstone to the efforts of establishing a NWFZ in the Middle East.

Unfortunately, it has so far been difficult to persuade the Jewish State to accept the NPT. If there is hope to pressure Israel in accepting the NPT, as a first step in establishing a NWFZ, it should come from its strategic partner and patron--the United States. Over the years, successive US presidents have confirmed US guarantee to the existence of the state of Israel. Furthermore, the United States has continually supported Israel economically, politically, and militarily. This solid support, and perhaps super power coordination, should be conducive to alleviating Israel's concerns for survival.

It is perhaps important that the two super powers consolidate their efforts in achieving such a cause. The super powers have voiced their agreement on establishing a NWFZ in the

Middle East since the issue was debated in 1974 to the present. The super powers should consider an agreement, between themselves, banning nuclear weapons in the region, and should consider taking coercive actions should their efforts be impeded. The efforts of the super powers should be in the general framework of the UN resolutions. The super powers' agreement should address their support, and particularly, the instability inherent in their provision of a nuclear umbrella to their allies. Points to consider are the alleged Soviet nuclear umbrella to certain Arab countries and the potential capabilities of the US Strategic Defense Initiative (SDI) program.

A nuclear weapon free Middle East would protect the people of the region from the horrible consequences of a nuclear war. Furthermore, countries would be able to conduct diplomacy without fear of nuclear holocaust or nuclear blackmail. The concept of a NWFZ in the Middle East could be introduced in stages; first, including the countries directly involved in the Arab-Israeli Conflict, followed by a gradual widening of the region. This, however, should not go beyond the Middle East, to include countries of South Asia.

Indeed, the prospects of establishing a NWFZ in the Middle East are much better now than when the proposals were first introduced by Egypt and Iran in 1974. The developments in eastern Europe, with a resultant demise of the "Cold War," should enhance the prospects for superpower cooperation.

Indeed, President Gorbachev has brought about new dimensions in East-West relations. These developments may well have positive impacts on other regions of the world, including the Middle East. Furthermore, the developments in South Africa, Israel's arms partner, could have a positive contribution. The warming-up of relations between the super powers and the reduction in the level of threat, as perceived by both parties, is going to bring about substantial reductions in arms and troops on both sides. Hence, establishing a NWFZ in the Middle East will no doubt serve the arms control process and the effect would be worldwide.

As for the Arab-Israeli Conflict, the NWFZ concept would have a favorable effect on the peace process. The United States, for over a year now, has established a dialogue with the Palestine Liberation Organization (PLO). This move together with Egypt's mediation efforts should be able to encourage the major players in the Middle East to seek a political solution to the conflict.

Finally, the Iran-Iraq War has proved to both parties that the ultimate means of settling disputes is a political one. The guns have been silenced now and the horror of the war is becoming evident. Specifically, the usage of chemical weapons during the war was a reminder of the horror which could be caused by weapons of mass destruction. The introduction of

nuclear weapons in the region is a serious escalation of horror--a horror of vast magnitude beyond that of chemical weapons.

CHAPTER VII

CONCLUSION

By introducing nuclear weapons in the Middle East, Israel has further complicated an already dangerously confused situation. The testimony of Mordechai Vanunu removed the suspicions surrounding Israel's nuclear activity. Since his testimony, analysts have been preoccupied with Israel's nuclear strategy: The advantages/disadvantages of the "bomb-in-the-basement" approach as opposed to the "declaratory" approach. The fact of the matter is that the "nuclear dimension" has begun to cast its shadow over the Arab-Israeli Conflict. Indeed, during the 1973 war, the world came close to a nuclear catastrophe.

It is therefore conceivable that another military confrontation in the Middle East, between Israel and an Arab State(s) could escalate to nuclear war. This danger of escalation would increase if an Arab State(s) possesses nuclear weapons as a counterforce to Israel's nuclear capability. The strong fears and suspicions regarding the political and military objectives of these countries could spark nuclear preemptive strikes. Thus, lack of confidence, uncertainty, and miscalculation of intentions could only bring disasters to the

region. It is therefore to the best interest of the region and the world community that nuclear proliferation in the Middle East is prevented and that the establishment of a NWFZ is strongly supported.

The NWFZ scenario provides the best vehicle for ensuring a nuclear weapon free Middle East. The adoption of this option should be conducive to forging stability in the region and also enhance the prospects of settling the Arab-Israeli Conflict. The existence of nuclear weapon states would severely inhibit the prospects for peace and could lead to freezing the current boundaries between Israel and the neighboring Arab States. The quest to solve the Palestinian problem would come to an end.

It is therefore in the best interest of the Arab countries to strongly support the establishment of nuclear weapons free Middle East. The Arab countries should not adopt a course of action which would jeopardize the peace process and prolong the sufferings of the Palestinian people. If Israel managed to mount a raid on Iraq's nuclear facility, then the Arab countries have passed the point at which they could have mounted a similar raid on Israel's Dimona facility. The consequences would be high as the facility is already in operation. Besides, Israel by now may have dispersed its nuclear bombs to various locations within Israel. Furthermore, Israel's nuclear cooperation with South Africa means it may have other sources of acquiring more bombs.

The Arab countries should continue to invest in peaceful

nuclear technology. Countries like Egypt, Syria, and Jordan with low oil resources and high energy demands should place a high priority on nuclear energy. It is advisable, however, that they should not invest in manufacturing nuclear weapons. The likelihood of stalling the peace process, increasing tension in the region, mounting economic and political difficulties render the bomb option unattractive.

The frontline Arab countries have invested and possess large quantities of other forms of weapons of mass destruction, namely chemical and biological weapons. This capability should serve as weapons of counter value. The effect of a few chemical weapons on a small state like Israel, should be devastating. Obviously, like nuclear weapons, the use of chemical/biological weapons could also cause "self-inflicted" injuries due to terrain, climate, and wind movements. Egypt and Syria knew about the Israeli nuclear weapons capability before mounting the 1973 war, perhaps Israel also knew about the Arab chemical/ biological weapons capability. Thus, the existence of weapons of mass destruction on both sides should give a reasonable deterrence. Furthermore, chemical weapons are easy and less costly to manufacture. Besides, the Arab States posses various delivery mechanisms--most importantly, long-range missiles. This is why Israel and the United States have embarked on a joint venture in the acquisition of Anti-Ballistic Missile System (Arrow).[62]

Finally, the Arab countries have, out of their

convictions, signed the NPT hoping for a nuclear weapons free Middle East. They have done so despite the indications that Israel was not going to follow suit and its nuclear activities were highly suspicious. It is now in the interest of the Arab countries not to sign any treaty which calls for elimination of chemical weapons until such time Israel's nuclear weapons capability is addressed. Israel also possesses chemical/ biological weapons. Thus, the linking of nuclear and chemical weapons proliferation should be maintained. The ultimate goal should be the elimination of all weapons of mass destruction.

Nuclear weapons pose greater threat to humanity than the chemical weapons, although both are classified as weapons of mass destruction. The international community, especially the five nuclear powers, have the moral obligation in fostering the environment of nuclear disarmament and non-proliferation. Indeed, fostering favorable worldwide political climate, which would render relying on nuclear weapons as unacceptable, would be the best course of action than relying totally on technical arrangements which are devised to restrict proliferation. Nuclear power states and the industrialized countries have the obligation to persuade and convince countries not to embark on nuclear weapons manufacturing. This would be a much better tool than delivering lectures and threats.[63] It is in the interest of the world, not just the region, that this happen.

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